

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Y. Kato et al. : Art Unit:
Serial No.: To Be Assigned : Examiner:
Filed: Herewith :
FOR: APPARATUS AND METHOD FOR :
PROVIDING INFORMATION BY SPEECH :

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

S I R :

Prior to examination, please amend the above-identified application as follows.

IN THE SPECIFICATION:

Please replace the paragraph beginning at page 5, line 4:

One aspect of the present invention is an apparatus for providing information by speech, comprising:

Please replace the paragraph beginning at page 5, line 21:

Another aspect of the present invention is an apparatus for providing information by speech, wherein said predetermined criterion is selection of a word occurring in the relation information.

Please replace the paragraph beginning at page 5 line 25:

Still another aspect of the present invention is an apparatus for providing information by speech, comprising:

Please replace the paragraph beginning at page 6, line 14:

Yet another aspect of the present invention is an apparatus for providing information by speech, comprising:

Please replace the paragraph beginning at page 7, line 12:

Still yet another aspect of the present invention is an apparatus for providing information by speech, comprising:

Please replace the paragraph beginning at page 8, line 14:

A further aspect of the present invention is an apparatus for providing information by speech according to 4th or 5th inventions, wherein said predetermined criterion is selection of a word of the first language occurring in the relation information.

Please replace the paragraph beginning at page 8, line 19:

A still further aspect of the present invention is an apparatus for providing information by speech, comprising:

Please replace the paragraph beginning at page 9, line 11:

A yet further aspect of the present invention is an apparatus for providing information by speech, comprising:

Please replace the paragraph beginning at page 10, line 7:

A still yet further aspect of the present invention is an apparatus for providing information by speech, comprising:

Please replace the paragraph beginning at page 11, line 2:

An additional aspect of the present invention is an apparatus for providing information by speech, wherein said predetermined criterion is selection of a word occurring in the relation information.

Please replace the paragraph beginning at page 11, line 6:

A still additional aspect of the present invention is an apparatus for providing information by speech, comprising:

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Please replace the paragraph beginning at page 11, line 22:

A yet additional aspect of the present invention is an apparatus for providing information by speech, wherein when replacing the standard words of the selected standard sentence pattern with the words, said analyzing means leaves, of the standard words of the selected standard sentence pattern, standard words not corresponding to the words as they are, or replaces the standard words not corresponding to the words with predetermined words.

Please replace the paragraph beginning at page 12, line 6:

A still yet additional aspect of the present invention is an apparatus for providing information by speech according to any of 1st to 11th inventions, wherein all or some of the prepared standard sentence patterns are each associated with a predetermined operation and/or image data.

Please replace the paragraph beginning at page 12, line 11:

A supplementary aspect of the present invention is an apparatus for providing information by speech, wherein all or some of the prepared standard sentence patterns are each associated with a predetermined operation, and when selecting or identifying the standard sentence pattern, said analyzing means also identifies the operation corresponding to the standard sentence pattern, and the identified operation is performed when said speech synthesizing means outputs a result of the speech synthesis.

Please replace the paragraph beginning at page 12, line 20:

A still supplementary aspect of the present invention is an apparatus for providing information by speech, wherein all or some of the prepared standard sentence patterns are each associated with a predetermined image, and when selecting or identifying the standard sentence pattern, said analyzing means also identifies the image corresponding to the standard sentence pattern, and the identified image is displayed when said speech synthesizing means outputs a result of the speech synthesis.

Please replace the paragraph beginning at page 13, line 4:

A yet supplementary aspect the present invention is an apparatus for

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providing information by speech, comprising signal processing means of analyzing an input signal and generating one word or a plurality of words in accordance with a result of the analysis,

Please replace the paragraph beginning at page 13, line 10:

A still yet supplementary aspect of the present invention is an apparatus for providing information by speech according to 16th invention, wherein said input signal is at least one of a speech, a sound, an image, a vibration, an acceleration, a temperature and a tension.

Please replace the paragraph beginning at page 13, line 15:

One aspect of the present invention is an apparatus for providing information by speech, wherein said input signal is at least a speech, and said signal processing means performs speech recognition of the input speech and generates one word or a plurality of words in accordance with a result of the speech recognition.

Please replace the paragraph beginning at page 13, line 21:

Another aspect of the present invention is an apparatus for providing information by speech, wherein said input signal is at least a sound, and said signal processing means recognizes a sound source of the input sound and generates one word or a plurality of words in accordance with a result of the sound source recognition.

Please replace the paragraph beginning at page 14, line 2:

Still another aspect of the present invention is an apparatus for providing information by speech, wherein said input signal is at least an image, and said signal processing means analyzes the input image and generates one word or a plurality of words in accordance with a result of the analysis.

Please replace the paragraph beginning at page 14, line 7:

Yet another aspect of the present invention is an apparatus for providing information by speech, wherein there is a possibility that the input sentence is incomplete.

Please replace the paragraph beginning at page 14, line 11:

Still yet another aspect of the present invention is an apparatus for providing information by speech, wherein that there is a possibility that the input sentence is incomplete is a case where there is a possibility that all or a part of the input sentence is omitted, a case where there is a possibility that all or a part of the input sentence is replaced with an irrelevant sentence, or a case where there is a possibility that an irrelevant sentence is inserted in the input sentence.

Please replace the paragraph beginning at page 14, line 19:

A further aspect of the present invention is an apparatus for providing information by speech, wherein when said analyzing means fails in the selection of the standard sentence pattern because all of the input sentence is omitted or all of the input sentence is replaced with an irrelevant sentence, said speech synthesizing means does not perform the speech synthesis.

Please replace the paragraph beginning at page 15, line 1:

A still further aspect of the present invention is an apparatus for providing information by speech, wherein that there is a possibility that the input sentence is incomplete is a case where there is a possibility that the input sentence is a grammatically incomplete sentence including a colloquial expression, a case where there is a possibility that the input sentence is an enumeration of words, a case where the input sentence includes a literal error or an omitted word, or a case where there is a possibility that the input sentence is not a sentence but an expression comprising symbols and words.

Please replace the paragraph beginning at page 15, line 11:

A yet further aspect of the present invention is an apparatus for providing information by speech, wherein when the input sentence is a sentence generated as a result of a speech recognition result, that there is a possibility that the input sentence is incomplete is a case where there is a possibility that the speech recognition result includes a recognition error, or a case where there is a possibility that the speech recognition is a failure so that a recognition result corresponding to all or part of the input speech on which the speech recognition is performed is not output as the speech recognition result.

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Please replace the paragraph beginning at page 15, line 22:

A still yet further aspect of the present invention is an apparatus for providing information by speech, wherein said prosody information is a speech waveform obtained by recording a naturally generated speech of the standard sentence pattern assigned the prosody information.

Please replace the paragraph beginning at page 16, line 2:

An additional aspect of the present invention is an apparatus for providing information by speech according to any of 1st to 11th inventions, wherein said prosody information is information extracted from a naturally generated speech of the standard sentence pattern assigned the prosody information.

Please replace the paragraph beginning at page 16, line 7:

A still additional aspect of the present invention is an apparatus for providing information by speech, wherein said extracted information includes at least one of a fundamental frequency pattern, an intensity pattern, a phoneme duration pattern and a speech rate of the speech.

Please replace the paragraph beginning at page 16, line 12:

A yet additional aspect of the present invention is an apparatus for providing information by speech, wherein said prosody information is associated with at least one of the following conditions: a phoneme string; the number of morae, the number of syllables; an accent; a position in a sentence; presence or absence and a duration of an immediately preceding or succeeding pause; an accent type of an immediately preceding or succeeding accent phrase; prominence; a string of parts of speech; a clause attribute; and a dependency relation.

Please replace the paragraph beginning at page 16, line 21:

A still yet additional aspect of the present invention is an apparatus for providing information by speech, wherein said prosody information is stored in prosody generation units, and said prosody generation units are any of accent phrases, phrases, words and paragraphs.

Please replace the paragraph beginning at page 17, line 1:

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A supplementary aspect of the present invention is a method for providing information by speech, comprising the steps of:

Please replace the paragraph beginning at page 17, line 19:

A still supplementary aspect of the present invention is a method for providing information by speech, comprising the steps of:

Please replace the paragraph beginning at page 18, line 7:

A yet supplementary aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech according to 1st invention:

Please replace the paragraph beginning at page 18, line 23:

A still yet supplementary aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech:

Please replace the paragraph beginning at page 19, line 11:

One aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech:

Please replace the paragraph beginning at page 20, line 7:

Another aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech:

Please replace the paragraph beginning at page 21, line 7:

Still another aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech:

Please replace the paragraph beginning at page 21, line 22:

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Yet another aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech:

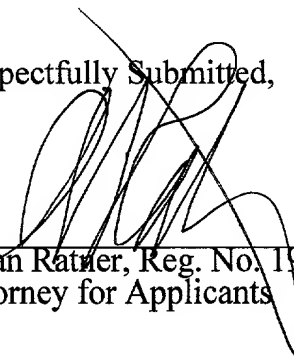
Please replace the paragraph beginning at page 22, line 16:

Still yet another aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech:

Please replace the paragraph beginning at page 23, line 10:

A further aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech:

Respectfully Submitted,


Allan Ratner, Reg. No. 19,717
Attorney for Applicants

AR/lm

Enclosure: Version With Markings Showing Changes Made

Dated: May 31, 2001

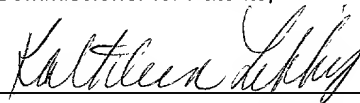
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Kathleen Libby

0967183-054101

VERSION WITH MARKINGS SHOWING CHANGES MADESPECIFICATION:

Specification at page 5, line 4:

~~The 1st invention~~ One aspect of the present invention is an apparatus for providing information by speech, comprising:

Specification at page 5, line 21:

~~The 2nd invention~~ Another aspect of the present invention is an apparatus for providing information by speech ~~according to 1st invention~~, wherein said predetermined criterion is selection of a word occurring in the relation information.

Specification at page 5 line 25:

~~The 3rd invention~~ Still another aspect of the present invention is an apparatus for providing information by speech, comprising:

Specification at page 6, line 14:

~~The 4th invention~~ Yet another aspect of the present invention is an apparatus for providing information by speech, comprising:

Specification at page 7, line 12:

~~The 5th invention~~ Still yet another aspect of the present invention is an apparatus for providing information by speech, comprising:

Specification at page 8, line 14:

~~The 6th invention~~ A further aspect of the present invention is an apparatus for providing information by speech according to 4th or 5th inventions, wherein said predetermined criterion is selection of a word of the first language occurring in the relation information.

Specification at page 8, line 19:

~~The 7th invention~~ A still further aspect of the present invention is an apparatus for providing information by speech, comprising:

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Specification at page 9, line 11:

~~The 8th invention~~ A yet further aspect of the present invention is an apparatus for providing information by speech, comprising:

Specification at page 10, line 7:

~~The 9th invention~~ A still yet further aspect of the present invention is an apparatus for providing information by speech, comprising:

Specification at page 11, line 2:

~~The 10th invention~~ An additional aspect of the present invention is an apparatus for providing information by speech ~~according to 9th invention~~, wherein said predetermined criterion is selection of a word occurring in the relation information.

Specification at page 11, line 6:

~~The 11th invention~~ A still additional aspect of the present invention is an apparatus for providing information by speech, comprising:

Specification at page 11, line 22:

~~The 12th invention~~ A yet additional aspect of the present invention is an apparatus for providing information by speech ~~according to any of 1st, 2nd, 4th, and 5th to 10th inventions~~, wherein when replacing the standard words of the selected standard sentence pattern with the words, said analyzing means leaves, of the standard words of the selected standard sentence pattern, standard words not corresponding to the words as they are, or replaces the standard words not corresponding to the words with predetermined words.

Specification at page 12, line 6:

~~The 13th invention~~ A still yet additional aspect of the present invention is an apparatus for providing information by speech according to any of 1st to 11th inventions, wherein all or some of the prepared standard sentence patterns are each associated with a predetermined operation and/or image data.

Specification at page 12, line 11:

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~~The 14th invention~~ A supplementary aspect of the present invention is an apparatus for providing information by speech ~~according to 13th invention~~, wherein all or some of the prepared standard sentence patterns are each associated with a predetermined operation, and when selecting or identifying the standard sentence pattern, said analyzing means also identifies the operation corresponding to the standard sentence pattern, and the identified operation is performed when said speech synthesizing means outputs a result of the speech synthesis.

Specification at page 12, line 20:

~~The 15th invention~~ A still supplementary aspect of the present invention is an apparatus for providing information by speech ~~according to 13th invention~~, wherein all or some of the prepared standard sentence patterns are each associated with a predetermined image, and when selecting or identifying the standard sentence pattern, said analyzing means also identifies the image corresponding to the standard sentence pattern, and the identified image is displayed when said speech synthesizing means outputs a result of the speech synthesis.

Specification at page 13, line 4:

~~The 16th invention of~~ A yet supplementary aspect the present invention is an apparatus for providing information by speech ~~according to any of 1st to 11th inventions~~, comprising signal processing means of analyzing an input signal and generating one word or a plurality of words in accordance with a result of the analysis,

Specification at page 13, line 10:

~~The 17th invention~~ A still yet supplementary aspect of the present invention is an apparatus for providing information by speech according to 16th invention, wherein said input signal is at least one of a speech, a sound, an image, a vibration, an acceleration, a temperature and a tension.

Specification at page 13, line 15:

~~The 18th invention~~ One aspect of the present invention is an apparatus for providing information by speech ~~according to 17th invention~~, wherein said input signal is at least a speech, and said signal processing means performs speech

recognition of the input speech and generates one word or a plurality of words in accordance with a result of the speech recognition.

Specification at page 13, line 21:

~~The 19th invention~~ Another aspect of the present invention is an apparatus for providing information by speech ~~according to 17th invention~~, wherein said input signal is at least a sound, and said signal processing means recognizes a sound source of the input sound and generates one word or a plurality of words in accordance with a result of the sound source recognition.

Specification at page 14, line 2:

~~The 20th invention~~ Still another aspect of the present invention is an apparatus for providing information by speech ~~according to 17th invention~~, wherein said input signal is at least an image, and said signal processing means analyzes the input image and generates one word or a plurality of words in accordance with a result of the analysis.

Specification at page 14, line 7:

~~The 21st invention~~ Yet another aspect of the present invention is an apparatus for providing information by speech ~~according to any of 1st to 11th inventions~~, wherein there is a possibility that the input sentence is incomplete.

Specification at page 14, line 11:

~~The 22nd invention~~ Still yet another aspect of the present invention is an apparatus for providing information by speech ~~according to 21st invention~~, wherein that there is a possibility that the input sentence is incomplete is a case where there is a possibility that all or a part of the input sentence is omitted, a case where there is a possibility that all or a part of the input sentence is replaced with an irrelevant sentence, or a case where there is a possibility that an irrelevant sentence is inserted in the input sentence.

Specification at page 14, line 19:

~~The 23rd invention~~ A further aspect of the present invention is an apparatus for providing information by speech ~~according to 22nd invention~~, wherein when

said analyzing means fails in the selection of the standard sentence pattern because all of the input sentence is omitted or all of the input sentence is replaced with an irrelevant sentence, said speech synthesizing means does not perform the speech synthesis.

Specification at page 15, line 1:

~~The 24th invention~~ A still further aspect of the present invention is an apparatus for providing information by speech ~~according to 21st invention,~~ wherein that there is a possibility that the input sentence is incomplete is a case where there is a possibility that the input sentence is a grammatically incomplete sentence including a colloquial expression, a case where there is a possibility that the input sentence is an enumeration of words, a case where the input sentence includes a literal error or an omitted word, or a case where there is a possibility that the input sentence is not a sentence but an expression comprising symbols and words.

Specification at page 15, line 11:

~~The 25th invention~~ A yet further aspect of the present invention is an apparatus for providing information by speech ~~according to 21st invention,~~ wherein when the input sentence is a sentence generated as a result of a speech recognition result, that there is a possibility that the input sentence is incomplete is a case where there is a possibility that the speech recognition result includes a recognition error, or a case where there is a possibility that the speech recognition is a failure so that a recognition result corresponding to all or part of the input speech on which the speech recognition is performed is not output as the speech recognition result.

Specification at page 15, line 22:

~~The 26th invention~~ A still yet further aspect of the present invention is an apparatus for providing information by speech ~~according to any of 1st to 11th inventions,~~ wherein said prosody information is a speech waveform obtained by recording a naturally generated speech of the standard sentence pattern assigned the prosody information.

Specification at page 16, line 2:

~~The 27th invention~~ An additional aspect of the present invention is an apparatus for providing information by speech according to any of 1st to 11th inventions, wherein said prosody information is information extracted from a naturally generated speech of the standard sentence pattern assigned the prosody information.

Specification at page 16, line 7:

~~The 28th invention~~ A still additional aspect of the present invention is an apparatus for providing information by speech ~~according to 27th invention~~, wherein said extracted information includes at least one of a fundamental frequency pattern, an intensity pattern, a phoneme duration pattern and a speech rate of the speech.

Specification at page 16, line 12:

~~The 29th invention~~ A yet additional aspect of the present invention is an apparatus for providing information by speech ~~according to any of 1st to 11th inventions~~, wherein said prosody information is associated with at least one of the following conditions: a phoneme string; the number of morae, the number of syllables; an accent; a position in a sentence; presence or absence and a duration of an immediately preceding or succeeding pause; an accent type of an immediately preceding or succeeding accent phrase; prominence; a string of parts of speech; a clause attribute; and a dependency relation.

Specification at page 16, line 21:

~~The 30th invention~~ A still yet additional aspect of the present invention is an apparatus for providing information by speech ~~according to any of 1st to 11th inventions~~, wherein said prosody information is stored in prosody generation units, and said prosody generation units are any of accent phrases, phrases, words and paragraphs.

Specification at page 17, line 1:

~~The 31st invention~~ A supplementary aspect of the present invention is a method for providing information by speech, comprising the steps of:

Specification at page 17, line 19:

~~The 32nd invention~~ A still supplementary aspect of the present invention is a method for providing information by speech, comprising the steps of:

Specification at page 18, line 7:

~~The 33rd invention~~ A yet supplementary aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech according to 1st invention:

Specification at page 18, line 23:

~~The 34th invention~~ A still yet supplementary aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech ~~according to 3rd invention~~:

Specification at page 19, line 11:

~~The 35th invention~~ One aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech ~~according to 4th invention~~:

Specification at page 20, line 7:

~~The 36th invention~~ Another aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech ~~according to 5th invention~~:

Specification at page 21, line 7:

~~The 37th invention~~ Still another aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech ~~according to 7th invention~~:

Specification at page 21, line 22:

~~The 38th invention~~ Yet another aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech ~~according to 8th invention~~:

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Specification at page 22, line 16:

~~The 39th invention~~ Still yet another aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech ~~according to 9th invention:~~

Specification at page 23, line 10:

~~The 40th invention~~ A further aspect of the present invention is a program for causing a computer to function as all or some of the following means of the apparatus for providing information by speech ~~according to 11th invention:~~

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